

WHAT IS CLAIMED IS:

1. An edible composition comprising an amount of a soluble mineral component, wherein the soluble mineral component comprises two or more minerals selected from the group consisting of zinc, manganese, tin, copper, and mixtures thereof, wherein the amount is an effective amount for use as an oral medicament, and wherein the edible composition is adapted for use by a companion animal.
2. The edible composition according to Claim 1 wherein:
  - (a) when the composition comprises zinc, the composition comprises at least about 0.001% zinc ion, by weight of the composition;
  - (b) when the composition comprises tin, the composition comprises at least about 0.0001% tin ion, by weight of the composition;
  - (c) when the composition comprises copper, the composition comprises at least about 0.0005% copper ion, by weight of the composition; and
  - (d) when the composition comprises manganese, the composition comprises at least about 0.0001% manganese ion, by weight of the composition.
3. The edible composition according to Claim 2 wherein at least a portion of the mineral component is coated on the surface of the composition.
4. The edible composition according to Claim 3 wherein at least about 50% of the mineral component, by weight of the mineral component, is coated on the surface of the composition.
5. The edible composition according to Claim 2 comprising at least about 0.02% of the mineral component, by weight of the composition.
6. The edible composition according to Claim 5 wherein:
  - (a) when the mineral component comprises zinc, the mineral component comprises a salt selected from the group consisting of zinc sulfate, zinc gluconate, zinc chloride, zinc citrate, zinc lactate, zinc malate, and mixtures thereof;
  - (b) when the mineral component comprises tin, the mineral component comprises a salt selected from the group consisting of tin lactate, tin gluconate, tin acetate, tin sulfate, tin malate, and mixtures thereof;

- (c) when the mineral component comprises copper, the mineral component comprises a salt selected from the group consisting of copper chloride, copper gluconate, copper sulfate, copper bisglycinate, copper lactate, copper malate, copper acetate, and mixtures thereof; and
  - (d) when the mineral component comprises manganese, the mineral component comprises a salt selected from the group consisting of manganese chloride, manganese sulfate, manganese gluconate, manganese acetate, and mixtures thereof.
- 7. The edible composition according to Claim 6 wherein:
  - (a) when the composition comprises zinc, the composition comprises from about 0.001% to about 1% zinc ion, by weight of the composition;
  - (b) when the composition comprises tin, the composition comprises from about 0.0005% to about 0.1% tin ion, by weight of the composition;
  - (c) when the composition comprises copper, the composition comprises from about 0.0005% to about 0.1% copper ion, by weight of the composition; and
  - (d) when the composition comprises manganese, the composition comprises from about 0.001% to about 0.5% manganese ion, by weight of the composition.
- 8. The edible composition according to Claim 7 further comprising a further amount of a phosphate component, wherein the further amount is an effective amount for use as an oral medicament.
- 9. The edible composition according to Claim 8 wherein at least a portion of the phosphate component is a pyrophosphate.
- 10. The edible composition according to Claim 8 wherein at least a portion of the phosphate component is a polyphosphate.
- 11. The edible composition according to Claim 8 comprising three or more minerals selected from the group consisting of zinc, manganese, tin, copper, and mixtures thereof.
- 12. The edible composition according to Claim 8 which is a companion animal biscuit.

13. The edible composition according to Claim 8 which is a companion animal chew.
14. The edible composition according to Claim 8 which is a companion animal food.
15. The edible composition according to Claim 8 which is substantially free of rawhide.
16. An edible composition comprising:
  - (a) an amount of a soluble mineral component, wherein the soluble mineral component comprises one or more minerals selected from the group consisting of zinc, manganese, tin, copper, and mixtures thereof; wherein the amount is an effective amount for use as an oral medicament; and
  - (b) a further amount of a phosphate component, wherein the further amount is an effective amount for use as an oral medicament;wherein the edible composition is selected from the group consisting of companion animal foods companion animal supplements, and combinations thereof, wherein the companion animal supplement is not a chew.
17. The edible composition according to Claim 16 wherein:
  - (a) when the composition comprises zinc, the composition comprises at least about 0.001% zinc ion, by weight of the composition;
  - (b) when the composition comprises tin, the composition comprises at least about 0.0001% tin ion, by weight of the composition;
  - (c) when the composition comprises copper, the composition comprises at least about 0.0005% copper ion, by weight of the composition; and
  - (d) when the composition comprises manganese, the composition comprises at least about 0.0001% manganese ion, by weight of the composition.
18. The edible composition according to Claim 17 wherein at least a portion of the mineral component is coated on the surface of the composition.
19. The edible composition according to Claim 18 wherein at least about 50% of the mineral component, by weight of the mineral component, is coated on the surface of the composition.

20. The edible composition according to Claim 19 comprising at least about 0.02% of the mineral component, by weight of the composition.
21. The edible composition according to Claim 20 wherein:
- (a) when the mineral component comprises zinc, the mineral component comprises a salt selected from the group consisting of zinc sulfate, zinc gluconate, zinc chloride, zinc citrate, zinc lactate, zinc malate, and mixtures thereof;
  - (b) when the mineral component comprises tin, the mineral component comprises a salt selected from the group consisting of tin lactate, tin gluconate, tin acetate, tin sulfate, tin malate, and mixtures thereof;
  - (c) when the mineral component comprises copper, the mineral component comprises a salt selected from the group consisting of copper chloride, copper gluconate, copper sulfate, copper bisglycinate, copper lactate, copper malate, copper acetate, and mixtures thereof; and
  - (d) when the mineral component comprises manganese, the mineral component comprises a salt selected from the group consisting of manganese chloride, manganese sulfate, manganese gluconate, manganese acetate, and mixtures thereof.
22. The edible composition according to Claim 21 wherein:
- (a) when the composition comprises zinc, the composition comprises from about 0.001% to about 1% zinc ion, by weight of the composition;
  - (b) when the composition comprises tin, the composition comprises from about 0.0005% to about 0.1% tin ion, by weight of the composition;
  - (c) when the composition comprises copper, the composition comprises from about 0.0005% to about 0.1% copper ion, by weight of the composition; and
  - (d) when the composition comprises manganese, the composition comprises from about 0.001% to about 0.5% manganese ion, by weight of the composition.
23. The edible composition according to Claim 22 comprising at least about 0.05% of the phosphate component, by weight of the composition.
24. The edible composition according to Claim 23 wherein at least a portion of the phosphate component is a pyrophosphate.

25. The edible composition according to Claim 23 wherein at least a portion of the phosphate component is a polyphosphate.
26. An edible composition, comprising:
- (a) an amount of a soluble mineral component comprising one or more minerals selected from the group consisting of zinc, manganese, tin, copper, and mixtures thereof, wherein the amount is an effective amount for use as an oral medicament, and wherein at least a portion of the mineral component is coated on the surface of the edible composition;
  - (b) a further amount of a phosphate component, wherein the further amount is an effective amount for use as an oral medicament;
- wherein the edible composition is a companion animal chew.
27. The edible composition according to Claim 26 which is substantially free of rawhide.
28. The edible composition according to Claim 27 wherein the mineral component comprises at least two minerals selected from the group consisting of zinc, manganese, tin, copper, and mixtures thereof.
29. The edible composition according to Claim 28 comprising at least about 0.01% of the mineral component, by weight of the composition.
30. The edible composition according to Claim 29 wherein at least a portion of the phosphate component is integrated within the edible composition.
31. The edible composition according to Claim 30 comprising at least about 0.02% of the mineral component, by weight of the composition.
32. The edible composition according to Claim 31 wherein:
- (a) when the mineral component comprises zinc, the mineral component comprises a salt selected from the group consisting of zinc sulfate, zinc gluconate, zinc chloride, zinc citrate, zinc lactate, zinc malate, and mixtures thereof;

- (b) when the mineral component comprises tin, the mineral component comprises a salt selected from the group consisting of tin lactate, tin gluconate, tin acetate, tin sulfate, tin malate, and mixtures thereof;
  - (c) when the mineral component comprises copper, the mineral component comprises a salt selected from the group consisting of copper chloride, copper gluconate, copper sulfate, copper bisglycinate, copper lactate, copper malate, copper acetate, and mixtures thereof; and
  - (d) when the mineral component comprises manganese, the mineral component comprises a salt selected from the group consisting of manganese chloride, manganese sulfate, manganese gluconate, manganese acetate, and mixtures thereof.
33. The edible composition according to Claim 32 wherein at least a portion of the phosphate component is a polyphosphate.
34. The edible composition according to Claim 32 wherein at least a portion of the phosphate component is a pyrophosphate.
35. The edible composition according to Claim 32 comprising at least about 0.05% of the phosphate component, by weight of the composition.
36. The edible composition according to Claim 35 comprising at least about 0.5% of the phosphate component, by weight of the composition.
37. An edible composition comprising:
- (a) an amount of a soluble mineral component comprising a mineral selected from the group consisting of zinc, manganese, tin, copper, and mixtures thereof, wherein the amount is an effective amount for use as an oral medicament; and
  - (b) a further amount of a phosphate component, wherein the further amount is an effective amount for use as an oral medicament, and wherein at least a portion of the phosphate component is coated on the surface of the edible composition;
- wherein the edible composition is a companion animal chew.
38. The edible composition according to Claim 37 which is substantially free of rawhide.

39. The edible composition according to Claim 38 comprising at least about 0.01% of the mineral component, by weight of the composition.
40. The edible composition according to Claim 39 wherein at least a portion of the mineral component is integrated within the edible composition.
41. The edible composition according to Claim 40 wherein at least a portion of the mineral component is coated on the surface of the edible composition.
42. The edible composition according to Claim 40 comprising at least about 0.02% of the mineral component, by weight of the composition.
43. The edible composition according to Claim 42 wherein:
- (a) when the mineral component comprises zinc, the mineral component comprises a salt selected from the group consisting of zinc sulfate, zinc gluconate, zinc chloride, zinc citrate, zinc lactate, zinc malate, and mixtures thereof;
  - (b) when the mineral component comprises tin, the mineral component comprises a salt selected from the group consisting of tin lactate, tin gluconate, tin acetate, tin sulfate, tin malate, and mixtures thereof;
  - (c) when the mineral component comprises copper, the mineral component comprises a salt selected from the group consisting of copper chloride, copper gluconate, copper sulfate, copper bisglycinate, copper lactate, copper malate, copper acetate, and mixtures thereof; and
  - (d) when the mineral component comprises manganese, the mineral component comprises a salt selected from the group consisting of manganese chloride, manganese sulfate, manganese gluconate, manganese acetate, and mixtures thereof.
44. The edible composition according to Claim 43 wherein at least a portion of the phosphate component is a polyphosphate.
45. The edible composition according to Claim 43 wherein at least a portion of the phosphate component is a pyrophosphate.

46. The edible composition according to Claim 43 comprising at least about 0.05% of the phosphate component, by weight of the composition.

47. The edible composition according to Claim 46 comprising at least about 0.5% of the phosphate component, by weight of the composition.

48. An edible composition comprising:

(a) an amount of a soluble mineral component comprising a mineral selected from the group consisting of manganese, tin, copper, and mixtures thereof, wherein the amount is an effective amount for use as an oral medicament;

(b) a further amount of a phosphate component, wherein the further amount is an effective amount for use as an oral medicament;

wherein the edible composition is a companion animal chew.

49. The edible composition according to Claim 48 which is substantially free of rawhide.

50. The edible composition according to Claim 49 comprising at least about 0.01% of the mineral component, by weight of the composition.

51. The edible composition according to Claim 50 wherein:

(a) when the mineral component comprises tin, the mineral component comprises a salt selected from the group consisting of tin lactate, tin gluconate, tin acetate, tin sulfate, tin malate, and mixtures thereof;

(b) when the mineral component comprises copper, the mineral component comprises a salt selected from the group consisting of copper chloride, copper gluconate, copper sulfate, copper bisglycinate, copper lactate, copper malate, copper acetate, and mixtures thereof; and

(c) when the mineral component comprises manganese, the mineral component comprises a salt selected from the group consisting of manganese chloride, manganese sulfate, manganese gluconate, manganese acetate, and mixtures thereof.



52. The edible composition according to Claim 51 wherein at least a portion of the phosphate component is a polyphosphate.

53. The edible composition according to Claim 51 wherein at least a portion of the phosphate component is a pyrophosphate.

54. The edible composition according to Claim 51 comprising at least about 0.5% of the phosphate component and at least about 0.02% of the mineral component, all by weight of the composition.

55. A method selected from the group consisting of treating oral cavity tartar, oral cavity plaque, oral cavity bacterial growth, periodontal disease, gingivitis, breath odor, and combinations thereof in a companion animal comprising orally administering to the companion animal the edible composition according to Claim 1.

56. A method selected from the group consisting of treating oral cavity tartar, oral cavity plaque, oral cavity bacterial growth, periodontal disease, gingivitis, breath odor, and combinations thereof in a companion animal comprising orally administering to the companion animal the edible composition according to Claim 16.

57. A method selected from the group consisting of treating oral cavity tartar, oral cavity plaque, oral cavity bacterial growth, periodontal disease, gingivitis, breath odor, and combinations thereof in a companion animal comprising orally administering to the companion animal the edible composition according to Claim 26.

58. A method selected from the group consisting of treating oral cavity tartar, oral cavity plaque, oral cavity bacterial growth, periodontal disease, gingivitis, breath odor, and combinations thereof in a companion animal comprising orally administering to the companion animal the edible composition according to Claim 37.

59. A method selected from the group consisting of treating oral cavity tartar, oral cavity plaque, oral cavity bacterial growth, periodontal disease, gingivitis, breath odor, and combinations thereof in a companion animal comprising orally administering to the companion animal the edible composition according to Claim 48.